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EXAMINER	
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11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/521,915	SHIMA, TOSHIHIRO
	Examiner	Art Unit
	Karl R. Reitz	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 02 June 2004.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,2,4-12,14 and 15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,2,4-12,14 and 15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 09 March 2000 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. Response has been made of record. Claims 1, 4, 7, 8, 9, 11 and 12 have been amended, claims 3, 13, 16 and 17 have been cancelled and claims 1, 2, 4-12, 14 and 15 are pending.

Response to Arguments

2. Applicant's arguments filed on 29 March 2004 have been fully considered but they are not persuasive.

3. Applicant argues (for all claims) that data is transmitted with the claimed invention in units of memory blocks, which is not expressly disclosed by Bender or Yonei. Specifically Applicant argues that Bender and Yonei do not disclose expressly that modes are selected based on if all memory blocks in the buffers store data.

4. Although Bender and Yonei do not specifically disclose transmitting data in units of blocks, it is well known in the art to transmit data in units of blocks. For example, Kondo (4,386,373) discloses storing data in 32 bit blocks (col. 4 lines 24-29), Yeh (4,953,104) discloses storing square portions of a page in memory blocks (col. 5 lines 34-38), Yamanashi (5,021,975) switches operations performed on memory blocks in order to minimize transfer time and speed processing (col. 3 lines 17-20), and Ono (5,394,406) uses blocks of buffer memory to store portions of a page image (col. 3 lines 55-57). In general blocks are used because storing and transmitting one full job is prohibitive in the use of resources required (for example, if a job is 500 pages long, it makes sense to process each page (or portion of page or group of pages) as it becomes ready for processing instead of waiting for all 500 pages to become ready to

processing and then beginning the processing of all 500 pages, this obviously speeds up processing). It is therefore obvious, to a person of ordinary skill in the art, that data in Bender and Yonei's systems are transmitted and processed in blocks as opposed to transmitting and processing an entire job at once.

5. With respect to the more specific point, Bender discloses that the auxiliary storage mode and the bypass mode are utilized based on the current state of any data being processed, namely whether or not the disk read buffer 136 is available to accept new data (col. 9 liens 49-53). If the buffer is available to accept new data, then, obviously, a block of memory in the buffer must be free. Therefore, Bender does in fact disclose that modes are selected based on the state of blocks in the buffer.

Claim Rejections - 35 USC § 112

6. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Both the claims refer to selecting the mode of operation based on "the criterion of the memory block of said first and second memory buffers". The phrase "the criterion of the memory block of said first and second buffer memories" is unclear, since the specific criterion for mode selection is not specified. In other words, it is unclear how the selection of the mode depends on the memory buffers. Is mode 1 (via auxiliary storage) selected when the first block is empty and the second one is full, or vice versa, or does is it automatically selected when the first block is full, etc.?

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender (5,791,790).

9. In accordance with claim 1, Bender discloses a printer 10 (figure 1), which can store data received over a network 15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines 28-30).

10. Bender further discloses communication processing means 11 (figure 1) for receiving data via the network; in Bender's apparatus receives data over a LAN via an internal network adapter INA1 (col. 2 lines 11-18).

11. Bender further discloses image data generation means to interpret and generate image data; in Bender's system the print controller "interprets incoming print jobs" and generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

12. Bender further discloses print processing means to print the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

13. Bender further discloses detection means to detect the state in which the received data is being processed; in Bender's system in step 252 (figure 4) the apparatus checks to determine whether any fully buffered files are in the hard disk, and

in step 520 (figure 7A) the apparatus checks to determine whether a new job is arriving at the input of the apparatus (col. 11 lines 25-27 and col. 16 lines 48-60).

14. Bender further discloses a mode in which received data is stored in the auxiliary storage; in this mode of Bender's system, received data entering the printer controller is sent to the job buffering task 104, then to the disk write buffers 116, then to the hard disk 128, then to the disk read buffer 136, then to the job buffering interface 102 before being outputted (col. 9 lines 28-40). Bender further discloses a bypass mode, in which received data is input to the image generation means, bypassing the auxiliary storage, based upon the detection means; in this mode of Bender's system, if it is determined that the disk read buffer 136 is available to accept new data, image data is sent directly from the disk write buffers 116 to the disk read buffer 136, bypassing the hard drive (col. 9 lines 49-67).

15. Bender further discloses a first buffer memory (the disk write buffer 116) between the communication means (port I/O bus 75) and the auxiliary storage (hard disk 128) (figure 2 and col. 9 lines 17-19).

16. Bender further discloses that the printer contains a second buffer memory (the disk read buffer 136) between the auxiliary storage (hard disk 128) and the image generation means (print engine 62) (col. 9 lines 30-36).

17. Bender further discloses that the auxiliary storage mode and the bypass mode are utilized based on the current state of any data being processed, namely whether or not the disk read buffer 136 is available to accept new data (col. 9 liens 49-53).

18. It is well-known in the art that data is transmitted and stored in blocks, as described in "Response to Arguments" section.

19. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

20. In accordance with claim 2, Bender further discloses that if data being processed is stored in the auxiliary storage, the auxiliary storage mode is selected; in Bender's system if data is stored in the hard drive 128, then some data would be being output from the hard drive to the image generation means via the disk read buffer 136, thus if the disk read buffer 136 is unavailable to accept to new data, the hard drive has data stored on it, in which case Bender does not select bypass mode (col. 9 lines 49-53).

21. Bender further discloses that if no data is being processed, i.e. the disk read buffer 136 is available to accept new data, then the bypass mode is utilized (col. 9 lines 49-53).

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Yonei.

24. In accordance with claim 4, Bender does not disclose expressly a first bypass mode, in which data is sent directly from the communication processing means to the second memory buffer for immediate printing.

25. Yonei discloses a bypass mode, in which data bypasses the hard drive 108 by being sent directly from the communication processing means to a buffer 114a between the hard drive 108 and the generation means (page 3 lines 17-23).

26. Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

27. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to use the bypass mode disclosed by Yonei in Bender's system. The motivation for doing so would have been to print jobs faster, as transferring data from the network directly to image generation means saves the time it takes to read and write data to the hard drive.

28. <u>Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Yonei.</u>

29. In accordance with claim 5, Yonei discloses that the bypass mode be used only after it has been determined that no data is stored in the auxiliary storage 108 (page 3 lines 17-21) and Bender discloses that a bypass mode be used only if the disk read buffer 136 (the second buffer) is empty (col. 9 lines 49-53).

30. Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

31. Both Bender and Yonei disclose that the bypass mode of their respective apparatuses is switched to only when it has been determined that no image data is

already being processed by the apparatus; in Bender's system, the bypass mode is switched to only after ensuring that the disk read buffer 136 is available to accept new data, which implies that both the disk read buffer 136 and the hard drive 128 are empty, as described above (col. 9 lines 49-53). In Yonei's system, the bypass mode is switched to only after ensuring that no unprocessed print data is being spooled in the hard disk unit 108 (page 3 lines 17-21). Thus from these teachings that the bypass mode of operation can only be utilized when there is no data already being processed by the apparatus, it would have been obvious to a person of ordinary skill in the art to use the bypass mode only after checking the contents of the first buffer memory (disk write buffer 116) to ensure it was empty. The motivation for doing so would have been to ensure that no data is being processed by the apparatus prior to switching to bypass mode.

32. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Yonei.

33. In accordance with claim 6, Yonei addresses the size of second buffer by stating that if the capacity of the second buffer is not enough, the data can be stored across a plurality of designated buffers, effectively allowing the size of the second buffer to be increased as needed (page 3 line 24 – page 4 line 2). Therefore, claim 6 is rejected.

Claim Rejections - 35 USC § 102

34. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

35. In accordance with claim 7, Bender further discloses a bypass mode, in which data is transferred directly between the first buffer memory 116 (disk write buffer) and the second buffer memory 136 (disk read buffer) (figure 2 and col. 9 lines 49-67).

36. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

37. In accordance with claim 8, Bender further discloses a bypass mode, in which data is transferred directly between the first buffer memory 116 (disk write buffer) and the second buffer memory 136 (disk read buffer) (figure 2 and col. 9 lines 49-67), Bender first checks to ensure that the second buffer memory 136 (disk read buffer) is empty (col. 9 lines 49-53).

Claim Rejections - 35 USC § 103

38. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Heart (4,130,865).

39. In accordance with claim 9, Bender does not disclose expressly that the second bypass mode be realized by transposing the memory block of the first buffer and an empty memory block of the second buffer, although Bender does disclose that the second bypass mode be realized by transferring data directly from the first buffer (disk write buffer 116) to the second buffer (disk read buffer 136) (col. 9 lines 49-67). Heart discloses that memory addresses can be transposed when transferring data from one location to another (col. 4 lines 52-57).

40. Bender is combinable with Heart because they are from similar problem solving areas, namely transferring data from one memory to another.

41. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to allow data to be sent from one buffer to another by transposing memory blocks as taught in Heart (col. 4 lines 52-57). The motivation for doing so would have been to get data from one buffer to another quickly.

42. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Yonei in further view of Heart.

43. In accordance with claim 10, Bender meets all the limitations of claims 7 and 8, and Bender and Heart combine to meet all the limitations of claim 9, from which claim 10 may depend.

44. In further accordance with claim 10, Yonei discloses that the bypass mode be used only after it has been determined no data is stored in the auxiliary storage 108 (page 3 lines 17-21). Bender discloses that a bypass mode be used only if the disk read buffer 136 (the second buffer) is empty (col. 9 lines 49-53). Bender further discloses that the bypass mode is used only if a memory block storing data exists in the first buffer memory (disk write buffer 116); in Bender's system the bypass mode is used by sending data from the disk write buffer 116 (first buffer memory) to the disk read buffer 136 (second buffer memory) (col. 9 lines 49-53), obviously, in order to transfer data from the first buffer to the second, there must be data in the first buffer.

45. Bender and Yonei are combinable for reasons already given above.

46. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Yonei.

47. In accordance with claim 11, Yonei discloses a bypass mode, like the first bypass mode, in which the communication processing means stores data in a buffer 114a between image generation means and the hard drive 108, as described above (page 3 lines 17-23). Bender discloses a bypass model like the second bypass mode, in which data stored in the first buffer (disk write buffer 116) is sent to the second buffer (disk read buffer 136) (col. 9 lines 49-53).

48. With respect to switching to the first bypass mode, Yonei discloses that the bypass mode be used only after it has been determined no data is stored in the auxiliary storage 108 (page 3 lines 17-21) and Bender discloses that a bypass mode be used only if the disk read buffer 136 (the second buffer) is empty (col. 9 lines 49-53). Both Bender and Yonei disclose that the bypass mode of their respective apparatuses is switched to only when it has been determined that no image data is already being processed by the apparatus; in Bender's system, the bypass mode is switched to only after ensuring that the disk read buffer 136 is available to accept new data, which implies that both the disk read buffer 136 and the hard drive 128 are empty, as described above (col. 9 lines 49-53). In Yonei's system, the bypass mode is switched to only after ensuring that no unprocessed print data is being spooled in the hard disk unit 108 (page 3 lines 17-21). Thus from this teaching that the bypass mode of operation can only be utilized when there is no data already being processed by the apparatus, it would have been obvious to a person of ordinary skill in the art to use the bypass mode only after checking the contents of the first buffer memory (disk write buffer 116) to

ensure it was empty. The motivation for doing so would have been to ensure that no data is being processed by the apparatus prior to switching to bypass mode.

49. With respect to switching to the second bypass mode, Yonei discloses that the bypass mode be used only after it has been determined no data is stored in the auxiliary storage 108 (page 3 lines 17-21). Bender discloses that a bypass mode be used only if the disk read buffer 136 (the second buffer) is empty (col. 9 lines 49-53). Bender further discloses that the bypass mode is used only if a memory block storing data exists in the first buffer memory (disk write buffer 116); in Bender's system the bypass mode is used by sending data from the disk write buffer 116 (first buffer memory) to the disk read buffer 136 (second buffer memory) (col. 9 lines 49-53), obviously, in order to transfer data from the first buffer to the second, there must be data in the first buffer.

50. Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

51. Therefore, it would have been obvious to one of ordinary skill in the art to add the bypass mode taught by Yonei to the method Bender. The motivation for doing so would have been to decrease printing time, by saving the time it takes to transfer data to and from the disk write buffer 116.

Claim Rejections - 35 USC § 102

52. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

53. In accordance with claim 12, Bender discloses a printer 10 (figure 1), which can store data received over a network 15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines 28-30).

54. Bender further discloses communication processing means 11 (figure 1) for receiving data via the network; in Bender's apparatus receives data over a LAN via an internal network adapter INA1 (col. 2 lines 11-18).

55. Bender further discloses writing means, the disk write buffer 116, for instructing the auxiliary storage, hard disk 128, to store data input from the communication processing means; in Bender's system print data received from the communication means is sent to the job buffering task 104 (col. 9 lines 1-3), from there, the data are sent to the disk write buffer 116 (col. 9 lines 3-5), from there, the disk write buffer 116 is used to transfer data to the hard disk 128 (col. 9 lines 17-19).

56. Bender further discloses reading means, the disk read buffer 136, for reading data from the auxiliary storage, hard disk 128 (col. 9 lines 27-32).

57. Bender further discloses image data generation means to interpret and generate image data; in Bender's system the print controller "interprets incoming print jobs" and generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

58. Bender further discloses print processing means to print the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

59. Bender further discloses detection means to detect the state in which the received data is being processed; in Bender's system in step 252 (figure 4) the apparatus checks to determine whether any fully buffered files are in the hard disk, and in step 520 (figure 7A) the apparatus checks to determine whether a new job is arriving at the input of the apparatus (col. 11 lines 25-27 and col. 16 lines 48-60).

60. Bender further discloses a first buffer memory (the disk write buffer 116) between the communication means (port I/O bus 75) and the writing means (figure 2 and col. 9 lines 17-19).

61. Bender further discloses that the printer contains a second buffer memory (the disk read buffer 136) between the auxiliary storage (hard disk 128) and the reading means (col. 9 lines 30-36).

62. Bender further discloses a mode in which data is received by communication processing means 11 (figure 1 labeled INA1) (col. 6 lines 11-18). From there, data is sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3). From there, data is sent to the disk write buffer 116, i.e. the first buffer memory, which also functions as the writing means as described above (col. 9 lines 3-5). From there, data is sent to the hard disk 128 (col. 9 lines 17-19). From there, data is read by the disk write buffer 136, i.e. the second buffer memory, which also functions as the reading means as described above (col. 9 lines 28-32). From there data is transferred to the print engine 62, i.e. the image generation means, following figure 2.

63. Bender also discloses a bypass mode of operation, in which received image data is input to the image data generation means without being input to the auxiliary storage;

in Bender's system, after data has been sent to the disk write buffer 116, as described in the other mode of operation, the data can be sent directly to the disk read buffer 136, bypassing the hard drive 128 (col. 9 lines 49-53). Bender further discloses that the modes are switched based on the state in which each of the buffer memories are used and the quantity of data in the auxiliary storage; in Bender's system the bypass mode is only switched to if the disk read buffer 136 is empty, which also implies that the hard disk 128 is empty, as described above, and when there is data in the first buffer available to be transferred (col. 9 lines 49-53).

64. It is well-known in the art that data is transmitted and stored in blocks, as described in "Response to Arguments" section.

Claim Rejections - 35 USC § 103

65. <u>Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Yonei.</u>

66. In accordance with claim 14, Bender discloses a data processing method of printer 10 (figure 1 and col. 1 lines 10-14), which can store data received over a network 15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines 28-30).

67. Bender further discloses a mode in which data passes through the hard drive 128, and a mode in which data bypasses the hard drive 128; in Bender's method, data can be written to the hard drive during processing (col. 9 lines 28-32), or it can bypass the hard drive during processing (col. 9 lines 49-53).

68. For the mode in which data is stored in the hard drive, Bender discloses a step for receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18).

69. Bender further discloses a step for storing received data in the hard drive 128; in Bender's system received data is sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write buffer 116, i.e. the first buffer memory, and from there, data is sent to the hard disk 128 (col. 9 lines 17-19).

70. Bender further discloses a step for reading the data in the hard drive 128; in Bender's system, data is read by the disk write buffer 136, i.e. the second buffer memory, (col. 9 lines 28-32).

71. Bender further discloses a step for interpreting the data and generating image data; in Bender's system the print controller "interprets incoming print jobs" and generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

72. Bender further discloses a step for printing based on the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

73. For the mode in which data bypasses the hard drive (the second bypass mode), Bender discloses a step for receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18). In Bender's bypass mode, only the step of storing data on the hard drive 128 is skipped (col. 9 lines 49-53).

74. Bender further discloses a step for storing received data in the first buffer memory (disk write buffer 116); in Bender's system received data is sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write buffer 116, i.e. the first buffer memory (col. 9 lines 3-5).

75. Bender further discloses a step for extracting data from the first buffer memory (disk write buffer 116) to the second buffer memory (disk read buffer 136); in Bender's system data is sent from the disk write buffer 116 to the disk read buffer 136 in the bypass mode (col. 9 lines 49-53).

76. Bender further discloses a step for interpreting the data and generating image data; in Bender's system the print controller "interprets incoming print jobs" and generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

77. Bender further discloses a step for printing based on the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

78. Bender does not disclose expressly an alternative bypass mode. However, Yonei discloses a different bypass mode, which corresponds to the first bypass mode.

79. For the other mode in which data bypasses the hard drive (the first bypass mode), Yonei discloses a step for receiving data over the network; in Yonei's method, the printer 1 receives information over the network 2 (page 1 lines 5-10).

80. Yonei further discloses a step for storing this received data in the second memory buffer, in Yonei's method, data is sent directly to buffer 114a for immediate printout in the bypass mode (page 3 lines 19-24).

81. Yonei further discloses a step for extracting data from the buffer to interpret it and generate image data; in Yonei's system, the data in the buffer is then developed into a bit map (page 4 lines 22-23).

82. Yonei further discloses a step for printing the data based upon the image data (page 5 line 9).

83. Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

84. Therefore, it would have been obvious to one of ordinary skill in the art to add the bypass mode taught by Yonei to the method Bender. The motivation for doing so would have been to decrease printing time, by saving the time it takes to transfer data to and from the disk write buffer 116.

85. It is well-known in the art that data is transmitted and stored in blocks, as described in "Response to Arguments" section.

86. <u>Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yonei in view of Bender in further view of Heart.</u>

87. In accordance with claim 15, Bender discloses a data processing method of printer 10 (figure 1 and col. 1 lines 10-14), which can store data received over a network 15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines 28-30).

88. Bender further discloses a mode in which data passes through the hard drive 128, and a mode in which data bypasses the hard drive 128; in Bender's method, data

can be written to the hard drive during processing (col. 9 lines 28-32), or it can bypass the hard drive during processing (col. 9 lines 49-53).

89. For the mode in which data is stored in the hard drive, Bender discloses a step for receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18).

90. Bender further discloses a step for storing received data in the hard drive 128; in Bender's system received data is sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write buffer 116, i.e. the first buffer memory, and from there, data is sent to the hard disk 128 (col. 9 lines 17-19).

91. Bender further discloses a step for reading the data in the hard drive 128; in Bender's system, data is read by the disk write buffer 136, i.e. the second buffer memory, (col. 9 lines 28-32).

92. Bender further discloses a step for interpreting the data and generating image data; in Bender's system the print controller "interprets incoming print jobs" and generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

93. Bender further discloses a step for printing based on the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

94. For the mode in which data bypasses the hard drive (the second bypass mode), Bender discloses a step for receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18). In Bender's

bypass mode, only the step of storing data on the hard drive 128 is skipped (col. 9 lines 49-53).

95. Bender further discloses a step for storing received data in the first buffer memory (disk write buffer 116); in Bender's system received data is sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write buffer 116, i.e. the first buffer memory (col. 9 lines 3-5).

96. Bender further discloses a step for extracting data from the first buffer memory (disk write buffer 116) to the second buffer memory (disk read buffer 136); in Bender's system data is sent from the disk write buffer 116 to the disk read buffer 136 in the bypass mode (col. 9 lines 49-53).

97. Bender further discloses a step for interpreting the data and generating image data; in Bender's system the print controller "interprets incoming print jobs" and generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

98. Bender further discloses a step for printing based on the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

99. Bender does not disclose expressly that in this bypass mode data is transposed between the first buffer and the second buffer, although Bender does disclose that the second bypass mode be realized by transferring data directly from the first buffer (disk write buffer 116) to the second buffer (disk read buffer 136) (col. 9 lines 49-67). Heart discloses that memory addresses can be transposed when transferring data from one location to another (col. 4 lines 52-57).

100. Bender is combinable with Heart because they are from similar problem solving area, namely transferring data from one memory to another.

101. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to allow data to be sent from one buffer to another by transposing memory blocks as taught in Heart (col. 4 lines 52-57). The motivation for doing so would have been to get data from one buffer to another quickly.

102. Bender does not disclose expressly an alternative bypass mode. However, Yonei discloses a different bypass mode, which corresponds to the first bypass mode.

103. For the other mode in which data bypasses the hard drive (the first bypass mode), Yonei discloses a step for receiving data over the network; in Yonei's method, the printer 1 receives information over the network 2 (page 1 lines 5-10).

104. Yonei further discloses a step for storing this received data in the second memory buffer, in Yonei's method, data is sent directly to buffer 114a for immediate printout in the bypass mode (page 3 lines 19-24).

105. Yonei further discloses a step for extracting data from the buffer to interpret it and generate image data; in Yonei's system, the data in the buffer is then developed into a bit map (page 4 lines 22-23).

106. Yonei further discloses a step for printing the data based upon the image data (page 5 line 9).

107. Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

108. Therefore, it would have been obvious to one of ordinary skill in the art to add the bypass mode taught by Yonei to the method Bender. The motivation for doing so would have been to decrease printing time, by saving the time it takes to transfer data to and from the disk write buffer 116.

109. It is well-known in the art that data is transmitted and stored in blocks, as described in "Response to Arguments" section.

Conclusion

110. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

111. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

112. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl R. Reitz whose telephone number is (703) 305-8696. The examiner can normally be reached on Monday-Friday 8:00-4:30.

113. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 305-7452. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

114. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9700.

KRR

David K Moore

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